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P E M P H I G U S V E G E T A N S .

By

J o h n C a m p b e l l B o y d , M . B .

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Even to use the term Pemphigus Vegetans is to open up debatable ground. Few subjects in Dermatology have been more disputed and in none have so many leading men taken part.

S y n o n y m s .

It has had at least three other names given to it.

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Unna was the first to object to the name "Pemphigus Vegetans" and entitled the condition "Erythema Bullosum Vegetans" for reasons we shall hereafter see. Then it has been called "Condylomatosis pemphigoides maligna" by Tommasoli,²⁾ while a number of other writers have avoided all cause of dispute by giving it the name of "Neumann's Disease". From the last mentioned name, it can be seen it was first defined and described by Neumann.³⁾ He it was who first clearly differentiated it from Syphilis. Although his paper did not appear until 1886, it was as far back as 1874 - 75 that he saw the case which convinced him that it was not a syphilitic condition. Before, however, giving a history of the disease, it would be well to briefly

describe what it is.

D e f i n i t i o n .

I would define it as a disease which generally commences in the mucous membrane of the mouth, throat, larynx, or pharynx, by bullae or blisters, which are later followed by bullae and vesicles elsewhere, especially on the contact surfaces; these on rupturing, are followed on their site by vegetations, or vegetations may appear independently of them. There is frequently a longer or shorter period of remission, but the disease always ends in death.

H i s t o r y o f t h e D i s e a s e .

Up till 1876, cases of Pemphigus Vegetans were regarded as Framboesiform Syphilides. ~~X~~. Kaposi describes the condition in his book as a " Syphilis cutanea papilliform ". Even before the publication of Kaposi's⁵⁾ work, Auspitz⁴⁾, in a paper entitled "Herpes Vegetans", described a condition very similar, the character of which, according to Neumann, was doubtful.

The first case recorded in this country was that quoted by Crocker⁶⁾ in his book and published in the Medico-Chirurgical Transactions in 1889.

⁷⁾ Hutchinson had seen one or two cases before Crocker's publication and, ~~xxx~~, independently of Neumann's paper which he had not seen, had come to a similar opinion regarding these so-called Syphilis Fram-

boesiform cases. A very large number of cases were published subsequently to this, but the increased number of published cases has not, I regret, added very much to our knowledge of the subject.

The case first described was seen by Hebra, as well as by Neumann, and a diagnosis of Syphilis was made. The course of the malady made them reconsider their diagnosis and place the condition in the Pemphigus group. The case is important, and I will go into it fully, as it proved a turning-point in the history of the disease, as Neumann tells us in his paper. The history is taken from Neumann's original paper.

H i s t o r y o f N e u m a n n ' s C a s e .

Woman, 31, married, previous good health. Family history excellent. Was well-nourished and lived in good social circumstances. No history of miscarriages or syphilitic infection. She was first seen by Neumann at the end of January 1875, with a history of pain in swallowing, and a few isolated bullae in the right axilla. This had been present since November of the previous year, that is over two months. The bullae burst and refused to heal, in spite of treatment.

When first seen by Neumann, she had a patch in the right axilla about the size of a half-crown piece, raised above the surface, dark red in colour, denuded of

epidermis, and split up into furrows. Already in the first week the half-crown sized area had increased two centimetres. In spite of painting with astringent lotions and cauterisation, the excrescences still appeared more evident.

Soon also the epithelium of the mucous membrane of the lower lip was raised in form of small blisters, the contents of which soon dried up.

After removal of the raised upper surface of the blister, the skin under was found covered with a white sticky coating.

The number of efflorescences on the mucous membrane of the lips, mouth and throat increased, so much so that the taking of nourishment became increasingly difficult. The patient could only take fluid food. The temperature of the skin was normal. The bowels were regular, the menses small and the urine free from albumen.

In further course the proliferations in the axilla in spite of cauterisation did not diminish, but actually increased in size. The specific character of the condition seemed almost certain, and the diagnosis of Syphilis was given to her family. The examination of her husband brought no further information.

On February 8th, Neumann noticed for the first time on the right upper arm, a slight distance from the axilla a walnut-sized, tensely stretched bulla, filled with

serous fluid, and round it four lentil-sized vesicles of the same consistence . Of the latter I shall have more to say later on. The vesicles emptied themselves next day and their place was taken by a dark red sharply defined excoriation. After six days proliferations appeared in the centre, these were skinned over after the condylomatous type. They extended in height and breadth and at the periphery the epidermis was raised in the form of twisted lines. A week later further proliferations equally large showed themselves on the abdomen and the inguinal fold , likewise on the labia majora. The efflorescences on the outer skin kept step with those on the mucous membrane, only the suffering caused here was much greater. The use of anti-syphilitic remedies Potassium Iodide, Proto Iodide of Mercury, Decoction Zittmanni remained without influence on the disease.

At that time Neumann had only seen two similar cases + both in Hebra's ward - which had been diagnosed as Framboesiform Syphilide.

When Hebra saw the case, he at once referred to the same two cases which had been in his ward. Soon the patient became feverish and about this time the whole type of the condition altered and the new efflorescences presented the appearances of Pemphigus Vulgaris. The efflorescences were now hemispherical

the size of a pea to a hazel nut and the contents were sticky. Most of the areas were on the breast, abdomen and back, where the epidermis was skinned, leaving large raw sores like a burn of the third degree. The pain was very great, the appetite small, and only fluid nourishment could be taken through a glass tube, on account of the great excoriations in the mouth.

As the mucous membrane of the nose was also covered with vesicles the patient could only breathe through her mouth, which fact caused her lips to become dry and coated with a diphtheritic-like membrane. In the corners of the mouth rhagades formed.

The eyelids showed numerous vesicles, the palpebral conjunctiva was injected and purulent secretion was given off. Frequent vomiting now appeared. The quantity of urine passed was slight.

The air in the room had a most penetrating ammoniacal odour, which made it difficult to remain beside the patient for more than a short time.

Baths, Quinine, Fowler's solution were all tried without staying the progress of the disease. The taking of nourishment became increasingly difficult and the patient died on the 30th of March 1875, four and a half months after the commencement of the disease.

The reasons which induced Hebra and Neumann to remove this condition from the Syphilis group were supplied from this case. They were briefly:—

(a) The nature of the proliferations with their surrounding wall of vesicles as against the sharply infiltrated edge of the syphilitic condyloma.

(b) The peculiar covering of the epithelium over the proliferations, with its character of dipping into the sub-epithelial tissues, was unlike the broad even coating which sometimes appears on the broad syphilitic condylomata.

(c) Its course and appearances. In syphilis with condylomatous formations, there is a certain degree of acuteness of the process, and there would, therefore, be other signs of syphilis to be observed.

(d) The condylomatous proliferations of syphilis, even if left untreated, tend to undergo a spontaneous retrogression.

(e) The strength of the patient in Pemphigus Vegetans rapidly diminishes the longer the proliferations last.

To these differential diagnostic points of Neumann, I would add the following of my own:—

(1) Frequently preliminary to the appearance of the bullae or vesicles in Pemphigus Vegetans, there is a greater or less degree of itching.

This is very uncommon as a preliminary to the eruptions of syphilis.

(2) Bacteriological and laboratory tests. The absence of the *Spirochaeta pallida* in the lesions, and the absence of the Wassermann reaction would also tend to render the diagnosis of syphilis unlikely.

(3) The effect of treatment. In Pemphigus Vegetans, anti-syphilitic remedies nearly always tend to aggravate the condition. Many writers have testified to this fact. K¹⁰⁾öbner dwells on its aggravating effects in his cases and particularly in his first.

¹¹⁾ Bottelli, in his recently published article, tells us how his patient suffered extremely from the mercurial stomatitis due to the persistent administration of Mercury before admission to hospital.

¹²⁾ Ravogli mentions the same thing about his case when she was admitted to the hospital under his care.

These are but a few of the many writers who have referred to this point.

Having removed this disease from the Syphilis group, where are we to put it ?

Vegetating lesions of the skin are by no means confined to Syphilis and Pemphigus. We can get vegetations in Iodide and Bromide eruptions; they appear as a complication of simple Impetigo sometimes. Cases of Eczema, Seborrhoeic Dermatitis, Sycosis Simplex,

Varicella, Herpes vulvae and Herpes Zoster have all been reported as undergoing a vegetating proliferation.

Wilfred Fox points out that condylomatous vegetations are rarely seen in better class clean syphilitics as a complication, but that it is only among the dirty unwashed classes that it appears. Vegetations are caused by some external source of irritation in these diseases mentioned. Are the vegetations of Pemphigus also merely a result of auto-intoxication in cases of Pemphigus Vulgaris, or have we here a special particular disease where the vegetations are typical and symptomatic ?

My answer to the first question is "No" and to the second "Yes". Had we invariably an appreciable interval between the appearance and rupturing of the bullae, and the appearance of the vegetations my answer to the first question would be "Yes", but cases have been reported, and my own first case (see later) is among them, where bullae appeared and as soon as they burst vegetations were seen to be already sprouting up over their floor. These could have had no opportunity of becoming infected from external causes, as they were protected by the roof of the bulla until they burst, the cause, therefore, of the proliferations on the floor of the bullae must have been internal

and not external. Then again, as Neumann points out, there is a marked difference between the vegetations formed on the floor of the bullae almost as a primary phenomenon and those which appear sometimes after the disease has lasted some months as a primary bullous disease. In the former case, the vegetations rapidly form, coalesce and become large, broad, flat, raised condylomata, as in my first case. I am far from saying that, unless the vegetations appear and develop speedily after the rupture of the bullae, it is not a case of Pemphigus Vegetans as, in large numbers of cases where the vegetations appear later, the delay is merely due to a difference in the acuteness of the process. I use the argument to prove that the vegetations do not always appear as a result of auto-intoxication. Neumann has explicitly stated that not all cases of Pemphigus which vegetate are cases of Pemphigus Vegetans. He lays stress upon the broad flat condylomata with above all the characteristic edge of vesicles round the periphery.

The whole subject was discussed at the Congress of Graz, without being much further advanced. It then
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was included by Neumann and Rosenthal under the varieties of Pemphigus and as a sub-variety of Pemphigus Foliaceus. This view was contested by Neisser who,
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while placing the condition as a variety of Pemphigus,

will not allow that it is a sub-variety of Pemphigus Foliaceus. Herxheimer¹⁵⁾ and Luithlen¹⁶⁾, in their articles, and Darier¹⁷⁾, in his book, have the condition as an ordinary Pemphigus which has undergone vegetation. Hallopeau¹⁸⁾ would call the disease Neumann's disease, until we learn something more of its true nature to enable us to classify it properly.

Unna, in his great work, separates the condition entirely from Pemphigus with which, according to him, it has nothing whatever to do, and he calls it Erythema Bullosum Vegetans.

Tommasoli agrees with Unna in taking the condition out of the Pemphigus group entirely, but does not agree with the quarter to which Unna relegates it. He believes Unna was misled by C. Müller's¹⁹⁾ second published case, which was not, he says, an example of Neumann's disease at all.

Certain it is that the description of the condition given in Unna's book does not correspond with either of my two cases, or with most of the published cases I have read.

In its inception, Unna says, it begins with a red spot the size of a shilling-piece, which after one or two days increases to the dimensions of the palm of the hand, and subsequently there appear in the centre blebs.

In Ravogli's case, the beginning seems to have been by a red erythematous spot upon which, later, papules appeared extending up from the chest to the neck.

Hallopeau, in his account of Pyodermatitis Vegetante at the Congress of Dermatology in Paris, speaks of some of his patients telling him that a red spot appeared sometimes first and that later, on this spot, pustules appeared. Hallopeau himself merely quotes the patients as telling him that; he does not seem to have seen it himself.

These are the only references I can find, after a tolerably exhaustive examination of the literature of the subject, to a similarity of the primary efflorescence to what Unna described.

It may be, considering that C. Müller's second case (from which, according to Tommasoli, Unna took his description) recovered, that it belonged after all to Hallopeau's "Pyodermatitis Vegetante" and was not a true example of Neumann's disease. Tommasoli himself calls the disease Condylomatosis Pemphigoides Maligna a name which, he says, while emphasising the similarity of the disease to Pemphigus takes it definitely out of the Pemphigus group.

The whole subject is still far from clear and, having only seen two cases, I am diffident about ex-

pressing an opinion on so disputed a point. Just as Eczema and Impetigos may at times vegetate and still remain classified as Eczemas and Impetigos, so also can Pemphigus cases.

I am strongly of opinion that this disease is a variety of Pemphigus, but not a sub-variety of any of its forms.

Hallopeau described some five cases at the International Congress of Dermatology in 1889, to which he gave the name of "Dermatitis pustuleuse vegetante en foyers à progression excentrique". Here the disease begins always with a pustule on an inflamed base. Occasionally patients affirm that the pustules are preceded by a reddened area upon which the pustules subsequently develop. Hallopeau for a long time insisted that this was a separate disease from Pemphigus Vegetans, that it was sharply differentiated from it by being primarily a pustular condition, formed by the aggregation of pustules upon whose base vegetations subsequently appear, and that it was spread by auto-intoxication and was not liable to the same grave termination as Pemphigus Vegetans.

The course of a case he had of this disease, however, whose name he shortened to Pyodermatitis Vegetante, determined him that he was dealing after all with the same disease as Neumann's. What changed his

point of view was that a bullous eruption appeared in one of his cases, with subsequent vegetations around. He then proposed that the disease should be called Neumann's disease, until we know the real nature of the morbid process.

²⁰⁾

Hartzell has published a case even since Hallopeau abandoned his position, under the title of "Pyodermitis Vegetans".

²¹⁾

Dr. Allan Jamieson is strongly of opinion that these pustular vegetating conditions variously named Dermatitis vegetans, Pyodermitis vegetante etc., are quite separate and distinct from Neumann's disease of Pemphigus Vegetans. Fordyce and Gottheil ²³⁾ published a case with the diagnosis Pyodermitis vegetante.

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Ledermann also uses the same diagnosis for his case, and lastly Sakwran and Shiga ^{24a)} give a similar diagnosis to the case they report. I mention these writings as showing that the name of Pyodermitis has by no means been dropped, since Hallopeau saw reason to include his cases under the classification of Neumann's disease.

I am unable to see why we should not have two varieties of Pemphigus Vegetans, a malign where the primary efflorescences are bullae, and where later on there may be vesicles or pustules, and a benign, where the primary efflorescence is a pustule with or without

subsequent formation of bullae.

While working in Riehl's Clinic in Vienna, I met with two cases diagnosed as Pemphigus Vegetans, which I will now proceed to describe: -

B. S. coachman, aged 37.

Admitted to Allgemeiner Krankenhaus, February 23rd, 1910.

Personal History.

Has had no serious illnesses, never had Syphilis or Gonorrhoea and has always been a temperate man. Lives a healthy life, mostly in open air, about stables and farmyard.

Family History.

Nothing to note. Wife has had no miscarriages, nor have there been any children still-born.

History of Present Illness.

Up till end of 1909, patient was quite healthy. Shortly after the New Year, there developed on his left cheek, just outside the ala of the nose, what he says was a blister. This in its development was preceded by some itching. A few days later, the blister burst and fluid escaped. There was left behind a raw area about the size of a threepenny piece. Other blisters formed in the neighbourhood, which also burst, and coalesced with each other, and the first formed raw

scabs. This patch was irregular in shape and circumference, and involved the beard and moustache region. On removing the scabs, one finds prominent papillary processes projecting underneath.

Mouth. Tongue slightly swollen being covered with a yellowish grey coat, except round the margin. On the left cheek the mucous membrane shows an area denuded of epithelium, which has irregular borders, and is beginning to skin over.

On the right side the mucous membrane of the cheek is free, as also are the floor of the mouth, the lips, and palate.

The under side of the tongue shows an area denuded of epithelium the size of a linseed.

On the right palato-glossal arch, is an oval-shaped raw patch, and on the left tonsillar region is another area denuded of epithelium showing slight bleeding. Teeth are extremely bad and mouth is in a very septic condition.

Round the umbilicus is a quite sharply defined condylomatous area, the size of a man's hand. It has been formed by the union of several of the isolated hazel-nut sized vegetations, which have sprung up from the floor of the burst bullae. These seem to come direct from the skin, and not to be placed on an oedematous basis. Round the border of this vegetating

area, is a slight puckering of the skin.

Over the condylomatous patch itself, were dark brown, dirty crusts. From the intervals of the papillomatous excrescences, can be squeezed out a thin serum.

There is a vegetating walnut- sized area, covered with dirty crusts, placed over the attachment of the seventh and eighth ribs to the sternum.

There is an area about the same size, in the right axillary fold. The left genito-crural fold is occupied by an area $3\frac{1}{2}$ inches long in its longest diameter, and $1\frac{3}{4}$ inches in its broadest diameter. This area is sharply defined. It consists of a series of papillomatous projections, fairly hard in consistence, cherry red in colour, and in some parts of the patch the projections are overhanging. The whole patch is covered with a smeary grey coating, which in some places has dried, and formed crusts. This large vegetating patch extends on the scrotum about $\frac{4}{5}$ of an inch, and about an inch on to the inner side of the thigh. Round the anus ~~are~~ to be found a few pustules.

General Examination .

Heart sounds closed in all the areas.

Respiratory System slight dry cough which passed off in a few days, no areas of dulness to be made out

over chest, no bronchial breathing to be heard anywhere.

Alimentary System .

Good appetite, no indigestion, no diarrhoea or constipation. Teeth very bad.

Nervous System.

Fairly cheerful, but suffers from want of sleep, owing to discomfort caused by his condition.

Deep reflexes not altered.

The general history was not easy to get, as the patient was rather contradictory in his statements. One important omission I should like to put right here is that round the area of the vegetations on the left groin were little vesico-pustules. This is an important point to which I shall refer later.

Progress of Case.

March 1st. The patches have been poulticed with starch to remove the scabs and have been a good deal improved by this treatment. Only those in the genito-crural fold appear increased and swollen.

March 10th. X-rays have been applied for ten minutes daily until an erythema has come on round the area treated.

March 14th. Little papular eczematous areas have appeared on the sternum and extremities. These

are dry.

March 16th. On periphery of areas on genito-crural fold, inflamed elevated areas have been produced, through scratching. Down the thigh the excrescences show signs of healing.

March 22nd. An area, the size of a shilling, on left axillary fold of closely placed pustules, which spring from a distinctly elevated base. There are pustular efflorescences on the left thigh, which coalesce with the vegetations on the genito-crural fold, and become vegetating in their turn.

March 29th. The vegetating areas on the genito-crural fold are spreading towards the buttocks. The vegetations on both axillae are also increasing.

April 8th. There are two smaller vegetations on the axilla, which have increased from being scarcely noticeable, to being the size of a walnut. They have become flatter.

April 17th. The patient had X-rays to the patches on the axilla, umbilicus and genito-crural fold. It was found that the disagreeable odour was less marked, the pain had greatly diminished. The surface of the vegetations was not so prominent.

On the periphery of the umbilical patch are a few hempseed-sized pustules, which have a tendency to coalesce.

April 23rd. No change. Boric powder applied.

April 26th. The vegetations round the pubic region are much flatter.

Similarly on the umbilical area the vegetations are flatter, but with a very painful marginal zone of moist skin, about $\frac{1}{3}$ of an inch broad.

May 17th. The proliferations on the abdomen are much flatter, the zone of painful moist skin is completely covered with epithelium, and is much less painful.

May 30th. Had X-rays on the left axillary and genito-crural areas.

June 6th. A tendency to increase in the vegetations in the umbilical region.

June 21st. The vegetations have distinctly increased in the umbilical region. X-rays have been ordered to be applied over them.

August 10th. While the vegetations on the abdomen appear flatter, there is left behind a brownish pigmentation of the skin.

The tumour on the right axilla likewise appears flatter, has become brown-coloured and skinned over. On the left axilla, and on the inguinal region, the vegetations have increased.

There is a specially evil-smelling odour from the patient.

X- rays in the left axillary and inguinal regions. Baths and boric ointment ordered.

August 12th. Had Ehrlich-Hata 0.50 subcutaneous-ly this afternoon. Moderate pain is present in the inguinal region. Pulse 96. Temperature 98.4°

August 13th. Nausea. No great pain over site of injection. Moderate pain is present in inguinal region. Temperature 99°. General condition unaltered.

August 14th. Afternoon temperature 99.2°. No trouble except nausea. Pulse 86.

August 15th. Till noon today marked diarrhoea. Temperature 98.1°. An area of oedema the size of a man's hand, which is not specially painful, over the sacrum.

August 16th. Oedema on sacrum still marked. Temperature 99°.

August 17th. Dryness in throat. Diarrhoea has ceased. Slight pain over area of injection.

August 18th. Feeling of great dryness and nausea. Temperature 103.3°. No pain over area of injection.

August 20th. Continued high fever. Scarlatinal erythematous rash on skin of trunk, and extremities. Slight dryness in throat remaining. No diarrhoea.

August 23rd. Continued high fever. Complaint of pain on left side of breast. Diffuse erythema on trunk has receded. Over the knee joint, and elbow

joint, it has remained as haemorrhagic spots . Between them is normal skin. The disease in the left inguinal region and axillae has rapidly receded during the last few days of high fever. There appears to be a considerable accumulation of pus under the proliferations.

August 30th. Now that the fever, diarrhoea, nausea and dryness of the throat have disappeared, the retrogression of the vegetations in the inguinal and axillary regions has remained stationary. They are now flattened, dry and much less prominent.

Following a discharge of pus from the right hand, there was swelling of glands on the right side of throat.

September 9th. Two days ago new proliferations appeared on the left inguinal and axillary regions, also isolated vesicles have appeared round the new proliferations.

September 17th. Patient received today 0.60 Ehrlich-Hata injection after the method of Michaelis.

September 18th. Temperature rising, but patient comparatively well, no pain in stomach, no reaction round area of injection.

September 19th. A marked formation of pus began on the proliferations on the other affected areas.

September 20th. On the right scapula, over a red inflammatory basis the size of a shilling-piece, is a

group of pin-head sized vesicles. The temperature remains high.

September 21st. Constant vomiting has continued up to today. The points where injection was made are still a little painful.

September 22nd. Vomiting stopped gradually.

September 29th. During the last few days the areas on axillae and genitals have disappeared.

September 30th. Overnight fresh groups of vesicles have appeared on the abdomen up to the umbilicus similar to those on the back.

October 4th. The isolated pustule formation on the back even the smaller ones, have changed to a raised flattened-like surface and the vegetations have a brownish red colour and are surrounded by an inflammatory halo. No new pustular formation. In the right genito-crural fold are isolated raised vegetations without previous pustular formation.

October 12th. In the left axilla there is a greatly increased degree of pustule formation, with a rising of the temperature.

October 13th. Perforation of an abscess in the left side.

October 15th. Vesicles disappear. Papillomatous proliferations on the left side. Isolated efflorescences on the back show slight scaling also

slight dark brown pigmentation.

October 17th. After further evacuation of the pus, the papillomatous proliferations have sunk in still more.

October 26th. Further formation of granulations on the left side with rise of temperature.

October 28th. Pus breaking through the granulations on the left side.

November 8th. Condition improving. General state greatly improved.

November 23rd. Had another sitting of X-rays.

November 26th. In the periphery of umbilical patch an appearance of papules.

December 19th. In the right inguinal region and on the abdomen isolated raised new vegetations. The process is in the same state in the left axilla. On the right axilla there is slight retrogression.

January 10th. An abscess developed in the peri-anal region spontaneously; it is now almost healed.

In the left axilla likewise is considerable suppuration, on the right axilla it has almost stopped.

In the peri-anal region we have the same kind of granulations as those which developed in the inguinal region. The abscess recurred in the peri-anal region and is very painful.

March 1st. In the mucous membrane of the right cheek and in the region of the right second molar tooth is a patch the size of a florin coated with a sticky substance and surrounded by a bright red margin.
Resorcin powder.

March 20th. Patch on the mouth has disappeared. In order to lessen the secretion from the efflorescences the quartz lamp was applied.

March 30th. In the right, as well as in the left inguinal region, the skin affection of the inner side of each thigh pushes itself forwards in a line, with slightly raised edges containing some pustules. The pus secretion appears somewhat less after Resorcin powder also the granulations are cleaner.

The area in the posterior wall of the left axilla appears more elevated.

May 27th.

State of the Disease.

In both axillae are large proliferations reaching down to the level of the insertion of the coracobrachialis muscle on the inner side. The vegetations are sharply defined. Round the border is a darker zone of pigmentation. Where there have been vegetations, areas of pigmentation have been left behind. The vegetations are raised from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch above the level of the surrounding skin and feel

fairly hard to the touch. On the flexures of both elbow joints there are also vegetations present, but not so elevated, being in process of retrogression. On the left groin is an area extending from the symphyses to an inch below the anterior superior spine. It is nearly uniform in breadth being $4 \frac{1}{4}$ inches broad and raised above the level of the surrounding skin $\frac{1}{2}$ to $\frac{3}{4}$ of an inch. It feels hard when touched and is composed of innumerable little finger-like processes massed together. These finger-like processes are of different sizes, but are all of the same colour and consistence being pale greyish red in colour.

They all seem to spring from an elevated base. There is a slight zone of dark pigmentation round the affected area.

The area extends down the inner side of the left thigh as far as it is in contact with the scrotum, that is for about three inches. The vegetations here are not so elevated and more pigmentation can be seen.

In the right groin the area is not so easily defined. Down the thigh on the inside, to the level of the apex of Scarpa's triangle is an elevated slightly hard papillomatous area with a serpiginous outline and a greyish coating. The two areas in the groin are coalescing across the abdominal wall by an irregularly eroded prolongation, which is covered with a greyish slime.

Over the anterior abdominal wall are numerous patches which have so coalesced as to leave very isolated areas of healthy skin. In many places are to be seen the edges of the vegetating area slightly raised, and dotted round the edge numerous pin-head small pointed pustules the whole forming a circular crescent shape with the centre more depressed. The superficial epithelium is eroded in one part of this efflorescence.

The chest and shoulders are fairly free. On the back are numerous discrete pustules scattered over the whole surface. The axillary proliferations on each side reach back to the level of the body of the scapula. Here and there over the back appear discrete vesicles which have burst and seem to be forming into vegetations. On the face there is nothing to be seen over the hairless parts. He has a pustule immediately below the lower lip that is all one can see in the regions covered by hair.

Hands.—Thumb, index and middle finger nails were off. New nails appeared; the old nail seems gradually to have been displaced by the new one.

All the nails of the right hand, except that of the little finger, have been off, while on the left the finger nails have all been off. On the feet the condition is somewhat similar, all the nails of the toes

are off, except that of the left third.

General Health at this date.

He is thin and emaciated, but not any more than one would expect from the severity of his illness. He complains of severe pain on movement, but lying still in a bath he seems pretty comfortable.

The large vegetating areas are tender if any pressure is put on them.

Examination of the heart, lungs and alimentary canal proves negative.

For the next few weeks the condition steadily improved, there being no new vesicles, bullae or pustules formed and the patient became stronger and put on flesh. He was able to be outside during most of the day and continued to improve during the very warm summer.

In September, however, he had a new relapse bullae forming over the chest, thighs and legs; these as before burst and left raw areas. A few bullae also formed over the healed pigmentary areas on the axillae. The strength, which had kept pretty good up till this time, began to diminish. Muscular tremors had always been present, but these became more marked. The patient's condition gradually became worse, there being an increased formation of bullae over the whole body, but not the same tendency to vegetate. The

taking of food became increasingly difficult and the state of the patient was pitiable in the last degree.

He died in the middle of November of exhaustion; diarrhoea being present for a few days before death.

Before considering this case in detail, I should like to give some account of the ~~second~~ case of Pemphigus Vegetans I observed.

Annie S. aged 25.

Admitted, November 19th, 1910.

Occupation , Housewife.

Complaint. . Large painful areas over the head, mouth and genitals.

Previous History.

Scarlet fever when a child. Catarrh of the colon two years ago, which was accompanied by severe diarrhoea . Had first child when eighteen, which only lived twenty-four hours. There was no appearance of any skin disease present on child. Since birth of child has had a chronic endometritis with a discharge from vagina.

Cystitis was present after confinement, venereal infection denied.

Family History.

Not known , the facts obtainable are unimportant.

History of Disease.

Began five weeks before admission by the formation of blisters in the mouth. These were followed shortly after by a similar appearance of large bullae over the labia majora.

A doctor was called in who gave her Mercurial injections, which made the condition in the mouth considerably worse. It appeared on the occiput about a fortnight after the commencement of the disease.

State on Admission.

Large crust accumulations near the occiput which, on removal, disclose a yellowish collection of pus covering a pale red uneven surface.

The unevenness is caused by the little buds projecting from the base.

In the mouth are two sharply defined raw areas on the hard palate the size of a threepenny-piece. Tongue is slightly enlarged and has a smeary white coating. The teeth marks on the tongue are visible. The lips are dry and cracked.

On the chest are a few yellowish red spots which are moist, secreting a little thin serum. Over the genitals and part of groin is a peculiar bluish red colour; this extends down round to the perineum and a little down the thigh. Over this bluish area are scattered pustular efflorescences which extend to the apparently sound skin. The pustules are of various

sizes. Some of them coalesce ,forming,when burst, raw moist sharply defined surfaces which have an edge of overhanging skin.

Near the umbilicus is a patch, the size of a half-crown piece, of small vesicles which have burst leaving a raw surface having a yellowish discharge.

General Health. Respiratory system nothing to note.

Cardiac system. An accentuation of the second sound in the aortic and mitral area. No dilatation of heart can be made out by percussion.

Pulse 112 per minute.

Progress of Case.

November 23rd. The bluish areas have begun to fade. The yellowish red areas on the chest are secreting copiously and are more prominent.

The small bullae on the genitals have extended more into the inguinal fold. On the side of the chest wall small vesicles have appeared. Vesicles have appeared on both forearms. On the hands extending down to the fingers are various sized reddish blue spots.

The right lower eyelid oedematous and swollen.

November 25th. The right upper eyelid also swollen. The bluish red erythematous spots have become flatter and general health seems better.

November 28th. Behind both ears and on the sacrum bullae are appearing. At the edge of the scalp in the back of the neck new vesicles are appearing.

December 4th On the neck we find new bullae which have burst and show signs of a vegetating excrescence appearing from their base. On the genitals the affection has formed itself into a papillary efflorescence.

January 31st. On the back as well as on the chest, isolated pea-sized bullae with an inflammatory areola.

February 2nd. The bullae on back have burst and become confluent. They have increased in number.

February 6th. Bullae appeared up to a cherry in size, which have coalesced. New bullae have appeared in the right temporal region, between the fingers and on the flexor side of the wrists on both upper extremities. The bullae on back have increased round the periphery and are partly filled with cloudy contents.

The feet are free, except on the toes. The older efflorescences have caused a slight lifting up of the nails.

On the back Peroxide of Hydrogen has been freely applied and afterwards it was powdered with Xeroform.

February 7th. Patient has a cachexia with a tendency to stupor.

February 8th. Great pain in back and sacrum. There is spreading of the affected area by the formation of new bullae.

February 10th. On the 8th, 9th, and 10th, there were rises of temperature at night. On the chest are a few more bullae.

February 11th. There is a chill in the evening with rise of temperature.

February 12th. There is still a chill in the evening with a rise of temperature. Temperature to-night 102°.

March 1st. Patient has a cough and complains of stabbing pains in chest when taking a breath.

The vegetations in the genitals appear to have shrunk together. There is a markedly pigmented edge round the vegetations.

March 12th. Patient has an anxious, drawn expression of countenance. A new eruption of bullae has appeared on the back and neck. Temperature 101.1°.

March 20th. Bullae have again appeared. Vegetations on genitals show a visible retrogression.

March 28th. Chill in the afternoon, and several fresh bullae on the neck. Temperature 100.4°.

April 1st. Temperature a little lower. Eruption of bullae and vesicles has stopped and parts healing.

April 10th. Striking sinking in of vegetations on the abdomen and genitals. There is a little brown pigmentation left behind where vegetations have been.

The raw surfaces on the neck are beginning to scale over.

April 20th. Improvement still maintained.

May 6th. Patient very much better.

May 27th.

Condition of patient.

There is nothing on the head. The mouth and tongue show several greyish coated erosions, which are tender and cause patient some pain when eating. There are no efflorescences on the face. On the neck in front, from the level of the clavicles to the level of the Pomum Adami, extending round the whole neck, except for an area directly posterior, is a large raw, pinkish coloured area, with a sharply defined border with a distinctly raw red border running round the edge of the affected surface. Over this pink coloured area are several isolated islands of more healthy tissue. Over the axillae are a few papillary vegetations, slightly raised above the level of the surrounding skin, of a pale red colour and having a wide zone of brown pigmentation around.

The anterior abdominal wall is entirely covered with brown pigmentation. Here and there scattered over this pigmented surface are little pustules.

On the left groin are two bullae, one the size of a haricot bean, the other a little smaller.

Down the adjacent inner side of thigh are raised hardish irregularly shaped papillomatous vegetations, pale red in colour and having shreds of epithelium hanging round their edges.

Down the right internal side of thigh is a similar condition. The right elbow joint has brown coloration round the flexor surface.

The hands are free. There is a raised thickened portion on the nails of the two thumbs and on the right index finger. The affected area is the same on these three nails, being confined to the proximal quarter inch of the nail. No other finger nail is affected.

This affection of the nails began last December. The feet are free, except down the back of each toe, where there is a hard dry sharply defined area distinctly raised about $\frac{1}{8}$ of an inch above the level of the surrounding skin. All the nails of the toes are cracked or absent altogether.

On the right side, just behind the great trochanter, is a deep hollowed-out ulcer 2 inches long and 1 broad in its widest part. This is an inch deep and its floor is covered with a thin layer of epithelium. Behind over the right buttock is a larger shallower

area similar in appearance, but with a more irregular outline. These cause great pain.

On the back over the sacrum is a large triangular shaped area, which is raw and moist. This is $5\frac{1}{2}$ inches long and $3\frac{1}{4}$ inches along its base. Immediately to the right of this is a somewhat similar area. These raw surfaces were formed by a succession of large bullae which coalesced and burst giving this large raw surface.

She cannot lie in bed without great pain over the points of pressure .

For the last three months she has been in a hot water bath, where she can remain without any pain. She sleeps five or six hours every night upon an average and is fairly cheerful as to her condition. She is able to take her food very well, indeed her appetite at times is voracious. She is very thin, but considering the severity of the signs no more than one would expect.

Her general condition continued to improve for some time after this, and she was able to leave the bath in which she had been lying for so long.

The large surface on the back gradually skinned over and she was able to go home about the middle of June.

I have heard nothing of her since, beyond the fact that she was still alive and apparently in good

health a month ago; a much more gratifying result than seemed probable at one time.

Commentary on Cases .

I should like to review these two cases as they compare with each other and with others reported in the literature of the subject.

We find they both occurred in early middle life. No age seems to be exempt however.

The case reported by Hartzell was in an old man of 76. Mracek's case²⁵⁾ was in a woman of 68, while, on the other hand, Matzenauer²⁶⁾ reported a case where the patient's age was 12, and one of Riehl's cases was only 13; there was some doubt as to the true nature of the condition in this patient.

The only reference to a hereditary element I have discovered in this disease was in Herxheimer's third case, where the patient's aunt had died of Pemphigus some years before. This being the only single recorded reference out of a very large number of recorded cases it can, I think, be ignored as a coincidence.

I was struck by the fact that in my cases, they had both apparently lived a healthy country life.

This has already been observed and commented on²⁷⁾ by many others. Duckworth's case was in a gamekeeper.

Jamieson's case also Rutherford's²⁹⁾ case were in the wives of farmers. Ludwig's²⁸⁾ case and one of Herxheimer's cases were in fishermen. Another of Herxheimer's cases was in a cattle dealer. Young,³⁰⁾ though he does not tell us what occupation his patient followed, says he lived in the country in healthy surroundings. Jourdanet's³¹⁾ case was in a country baker, who kept a donkey he was in the habit of caressing. It is only fair to add that this animal was examined by a Veterinary Surgeon and pronounced free from disease. Tommasoli's case was in a land surveyor.

Stellwag³²⁾ calls attention in his book to this same point, while Brocq,³³⁾ Hutchinson and Danlos report that the vast majority of cases come from country districts. In his book Brocq tells us of a case he had which began as an ordinary acathous stomatitis, which he believed had been conveyed through the milk of a cow which was similarly affected.

Neumann's sixth and seventh cases came from the country; the habitat of his other cases was not mentioned. Among the latest published cases is that of Balzer³⁴⁾ of a woman, aged 50. The disease commenced in the mouth and the patient blamed for her condition the following incident. She had a large number of her chickens dying and on doing a post-mortem upon one of them, she noticed a great enlargement of the liver, with

little nodules all over its surface. During her operation, she inadvertently put her hand to her mouth.

It is a pity the chicken could not have been submitted to a more scientific examination.

It is easy to labour the point, but when searching for a cause of this disease, the fact that the great majority of the cases reported have followed healthy country pursuits should not be forgotten. It is difficult to verify the professions of all the cases reported, as in most of the foreign ones it is not given.

In my second case and probably in my first one also, the starting place was in the mucous membrane of the mouth.

This localisation, however, is by no means an absolute rule as numerous cases have been reported where the starting point was elsewhere. Neumann's third case started in the axilla, while a case reported by MacCormac³⁵⁾ began on the genitals nine days after the birth of her child. K6bner believes, judging from his four cases, that it always begins in the mouth. Herxheimer does not believe that a necessary characteristic, while von Waeltsche³⁶⁾ analysed forty-nine cases, from which he noticed that in thirty of the forty-nine the disease began in the mucous membrane of the mouth, nose, throat or neighbourhood; in thirteen the site of the first lesion was not mentioned or was doubtful,

while six were known to have begun on the skin.

Judging from the fact that in many cases lesions may exist in the mouth or throat without the patient's knowledge ,or without their associating it with their disease,it is probable that in the great majority of these unclassified thirteen cases,the disease began in or near the mucous membrane of the mouth.

I have seen the records of some thirteen cases which have been published within the last five years. Of these thirteen,eight began in the mouth or throat, four on the skin and one was doubtful.

In considering this point,one has always the difficulty of knowing how much stress should be laid upon there being antecedent disease of the skin as for example in one of Herzheimer's cases,where there was a chronic pustular condition ^{of the nail(s)} for five years before the commencement of Pemphigus Vegetans. It is,after all has been said, perfectly certain that in the vast proportion of cases the mucous membrane of the mouth or throat is the first point of attack.

The primary efflorescence in this disease should be by bullae. Later there may be vesicles and pustules present in addition to bullae,but diseases where the condition has commenced with a pustule or a red erythematous patch upon which pustules subsequently develop are probably examples of the benign variety

which may later by the appearance of bullae take a malign course.

The localisation of the disease in my first case was absolutely typical, mouth, axillae, umbilical region and genito-crural folds. In the second case, while the typical regions were more or less affected, the back of the head and over the sacrum were also greatly involved. While in Pemphigus Vegetans the areas of contact, axillae, etc., are more especially affected, one cannot help being struck with the tendency for bullae and even flat vegetations to appear over the points of pressure. Indeed, from a careful perusal of a good many cases, I have come to the conclusion that pressure has a good deal ^{more} to do with the production of bullae with subsequent vegetations than authorities have given it credit for. There is an almost constant pressure round the waist, also about axillae and groin from the clothes one wears during the day and these are the favourite seats of the eruption on the skin. The back of the head has been noted as being specially affected in several cases published, notably that of Hertzell (1910). During the night that is the seat of some pressure. The affection was specially marked on the back of head and sacrum in my two cases.

(37)

Weidenfeld showed in his paper that mere pressure

on the skin during the period of invasion was sufficient to provoke a bulla, while during the retrogression no amount of pressure could succeed in doing so.

The characters of the lesions in my two cases were somewhat different. In the first case, the prominent feature was the enormous vegetations present. These, especially in the groin, had coalesced, forming a large roughly sausage-shaped area with, in several places, the characteristic small vesicles around its periphery. The vegetations were covered over with a greyish yellow pus. The raised elevations were fairly firm to the touch.

In the second case, it was rather the bullae which were the most noticeable feature. These had by their union and subsequent bursting caused large excoriated areas over a large portion of the back, neck and groin. The vegetations were present on the genitals and down the inner side of thigh and groin, but were not so raised above the level of the surrounding skin.

The areas of dark pigmentation which were left in places where the vegetations had subsided and disappeared were very noticeable in both cases. That it is so common as to be almost a symptom is seen from the records of the cases published.

In the case of the second patient, on admission, she presented a peculiar bluish red pigmentation over

the genitals and down the adjacent inner sides of the thigh for a short distance.

In Neumann's seventh case, there were bluish grey irregular stripes on the lower part of the right leg. These when pressed did not disappear as was also so in my second case. The day after these bluish discolorations appeared in Neumann's case, bullae appeared corresponding to the affected part. Shortly after these bluish discolorations were noticed in my second case, bullae appeared over the discoloured surface of skin.

In one of Zumbusch's ³⁸⁾ cases, he speaks of the affected areas having a bluish red colour, but he does not tell us if this came on prior to the appearance of the efflorescence.

Great pain was a feature of both cases, so severe was it that one hardly cared to move them, unless it was very necessary. At rest neither complained much.

Two other subjective phenomena might be here mentioned - the large appetite and the great thirst.

A further symptom of interest was the presence of ptyalism in the second case. Hutchinson first mentions this striking fact in connection with the disease. It was not present in my second case in anything like the amount reported by Rutherford lately, where the patient expectorated in pints per day. Herxheimer's

third case showed this symptom in a marked degree, while Neumann and Köbner also report its presence.

The extraordinary evil odour emitted from these cases is one of the most constant features. I can remember no case where I have not seen it mentioned, while in many great stress ~~has~~ been laid upon it. It, however, does not seem to have been present in such a penetrating form as Duckworth and Hutherford reported in their cases. There was present in the first case a sudden universal scarlatinal erythema, which was accompanied by a high temperature. As this appeared eight days after the Ehrlich-Hata injection, it may have had something to do with it, but this feature was reported in Zumbusch's second case as occurring frequently. I have many times noticed such universal erythematous rashes in cases where there has been a long-standing chronic ulcer, which has dried up under treatment.

This would seem to indicate that the ulcer has been an outlet for some toxic substances in the tissues, which since the drying up of the ulcer, were being re-absorbed into the system.

I, therefore, attribute the scarlatinal rash in this case to a re-absorption of some toxic substance which up till this time had escaped through some raw surface.

The affection of the nails was present in both my cases ; as this has been reported by many other authors, one might almost regard it as a symptom of the disease. We must remember, however, that it appears commonly in nearly all grave diseases of the skin.

During the stage of invasion, there was frequently a rigor, with a rise of temperature. Then some hours afterwards bullae or vesicles would appear.

The site of the bullae would generally be known by the patient in advance, from the itching and discomfort which was occasioned over the part.

The temperature tended to rise during the prodromal stage and to fall a little when the efflorescences appeared.

As is seen from the progress notes of both cases, the two patients would seem at one time to have been very gravely ill, indeed, in the case of the man, he was suffering badly from diarrhoea, which we generally regard as a symptom of a speedy end. In most of the fatal cases, it has appeared as the last symptom before death.

In K^öbner's first case, there was an alternation for some time between the diarrhoea and the appearance of the efflorescences. When the diarrhoea was severe, there was a cessation of the efflorescences, when the diarrhoea stopped, the bullae and pustules reappeared.

Tommasoli quotes this as a strong reason for believing we are dealing with a specific internal intoxication.

In both my cases there was a very septic condition of the mouth: this has been so frequently reported in other cases as to be hardly an accidental concomitant. I shall have more to say on this point when we come to the etiology.

An interesting point in the first case was that vegetations appeared independently of the formation of bullae or vesicles on at least one occasion. It was this fact in the case, coupled with the additional one that, when the bullae were burst, vegetations frequently were visible on their floor, that made me believe that here we were dealing with no mere complication of ordinary Pemphigus, but with a definite specific disease. The only writer I have found who mentions this independent vegetation as a possibility is Tommasoli.

It is possible that during the night there may have been a bulla which ruptured and disappeared, leaving behind a slight vegetating surface and no trace of the uplifted epithelium. I think this, however, highly improbable. I have, as a confirmation of my own observation of this point, the testimony of several of the medical men who were interesting them-

selves in the case.

Muscular tremors have been noted as occurring in many cases.

The symptom was only found in the first case I followed.

Herxheimer in especial emphasises the presence of this symptom in all his cases and attributes it to weakness. The tremors he noted seemed to vary directly with the other symptoms, a variation which did not specially strike me in my case.

After death he had a small section of some of the muscles chiefly affected examined, but found no pathological lesion present in it. During life he had several of his cases examined by a neurologist, but the nervous system was found intact, so far as organic disease was concerned.

The degree of extreme collapse at times in Pemphigus Vegetans is one of its more severe features.

The term weakness is not a sufficiently strong one to apply to it. During the course of the case, it is the most prominent feature, often following immediately upon the stage of acute invasion. It is at this time the patient is most apt to have a fatal end. If they recover after this stage, as both my patients partially did, they seem to acquire a certain degree of acclimatisation to their disease and are rather less

prone to succumb to subsequent attacks. If, however, the recovery is more perfect, so that the patient is able to be up and out of doors, their next attack is much more serious than if the disease had hung fire during the interval.

The temperature during the stage of invasion was high in both my cases ; later, when the toxic wave receded, it became less , but was seldom normal in the evening when any bullae or vesicles were present.

It was generally highest just before the onset of an outbreak. In general the toxic wave raised the temperature to 102° to 103°. On its subsidence, it would fall to 99° or thereabouts being perhaps normal in the morning. The pulse kept pace with the temperature, the normal relationship between the two never being markedly altered.

Passing from the positive signs to the negative, I have little to record, as none of the typical signs and symptoms most generally described were absent. There were no affections of the joints or contractions of the muscles , as were recorded by Neumann in three of his cases and by Zumbusch in his first patient. Hartzell, in the very interesting case published lately, mentions a similar phenomenon.

There was nothing in the symptoms or signs to give one reason to suspect any involvement of the nervous

system ,as has been reported in a number of cases. Nor was there any keratosis of the palms of the hands and the soles of the feet,as Duckworth reported in his case.

The only reference I have been able to trace of such a condition was in one of Zumbusch's cases where on the palms of the hands and soles of the feet there were numerous papillae jutting out covered with a thick layer of horny cells. There was an entire absence of any vegetations affecting the mucous membrane of the mouth as sometimes happens in the graver cases. I agree with Herxheimer that their presence would be oftener reported were it not that one is unwilling to disturb the patient any more than is absolutely necessary.

Prognosis.

The prognosis one should give in these cases is a matter of great interest.

Neumann,in his first published description,gave the gravest prognosis possible. A blister or two in the mouth and a few bullae in the axilla were enough, in his opinion,to tell the relatives it was a matter of months,if not of weeks. Since the appearance of that paper,he seems to have modified this view somewhat for,at the Vienna Dermatology Society,when

Mracek showed his case, he stated that if the vegetations dried up and showed signs of scaling, the prognosis as regards life was rather better; at least there was not the same certainty of a lethal end within a few months and that remissions of some months or even years might be expected.

This is interesting from the point of view of prognosis of my second case, where there was distinct scaling of the vegetations and which has temporarily healed.

In the many cases now published, there have been great variations in the length of time which they have taken to run their course. The longest so far recorded was Kaposi's, which took ten years. Wilfred Fox's ³⁹⁾ case, which began in August 1905, is still alive, having been discharged from St. George's Hospital healed, if not cured, in May 1906. Dr. Fox tells me he saw her in good health a year ago and has heard nothing of her since. This makes a period of six years from the healing of the disease.

Köbner's second case was in a Transvaal merchant. He was first attacked in 1886, but the disease remained exclusively confined to the inside of the mouth, the genito-crural and perineal regions for four years. Then for three years he was completely free. He had then a recrudescence and finally died in London in



the Spring of 1905, being a total of nine years from its first onset.

One of C. Müller's cases made a complete recovery. She had no less than four relapses, but in 1900, three years after her last recovery, she was seen in good health.

I have not been able to find any subsequent report of Müller's recording a relapse.

Mayr, in the Münchener medizinische Wochenschrift, quotes cases of apparently Pemphigus Vegetans, which have recovered.

In dealing with the period of duration of this disease, we are hampered by the fact that in cases which have run a long course, there is sometimes a doubt as to the diagnosis.

While it must be granted that there are cases of Neumann's disease which run a long course, or even heal temporarily, at any rate the majority die within a year. In my definition at the beginning of this paper, I stated that they always ended in death; I might qualify it a little by adding "if not cut off by some inter-current disease".

In the vast majority of so-called cured cases, they have returned to the hospital to die.

In Zumbusch's first case, there was an interval of more than a year during which the patient followed

his ordinary occupation as a wine seller before he sought readmission to the hospital. In Zumbusch's second case, we cannot say whether the patient has had a recurrence or not, as she has been lost sight of.

Brocq reports a case where there was partial healing which persisted during some years, the patient passing off eventually during a relapse. Jamieson's case had a complete remission of symptoms for some two months.

How long may a patient remain completely free of this disease before we can tell them they will have no further recurrence? That is a question which up till now has remained unanswered. With a complete remission of more than five years, one could give a very optimistic prognosis.

In Wilfred Fox's case, however, there has not been a complete remission, little reminders occasionally in the shape of a few vesicles leaving the question of recurrence still open.

Kaposi, Unna and K6bner are the only authorities who believe a complete recovery to be possible.

The prognosis will depend upon whether we regard this disease as an example of Pemphigus Vegetans benign or malign. As I have indicated elsewhere, if the disease starts with a pustule or a red erythematous patch upon which a vesicle or pustule subsequently

develops, if, furthermore, it is limited in the number of areas, as in Jourdanet's case where it involved only the face and mouth, moreover, if it has only involved the mucous membrane of the mouth secondarily, I would be inclined to be more hopeful in my view of the case. In addition to that, if the disease has shown signs of scaling, it is probably going to run a more chronic course. I regard an entire remission of signs and symptoms as a more serious matter for the patient than if the disease had refused to heal up perfectly, but remains chronic. I should expect the patient to live longer in the latter case than in the former. I am not judging from the very limited experience afforded by the two cases I observed, but from a perusal of a very large number of histories of Neumann and Hallopeau's disease.

Etiology.

" Nothing is more obscure than the etiology of this disease. " This statement was made by Brocq some years ago and still holds good. There are authorities who look for a causal condition in the nervous system, while others, with more grounds, believe in a microbic cause.

From the number of victims whose work lay among animals and from the still larger number who, up till

the time of the onset of their disease, lived in the country, I am inclined to think this may have some relation to the cause. Another factor of importance, I believe, is the frequent occurrence of a more than usually septic condition of the mouth with generally very rotten teeth. Is it conceivable that a combination of these two factors may be sufficient to explain the mischief? Is there a possibility that there exists among cattle a particular organism which can only gain entrance to the system when aided by the presence of a very septic condition of the mouth, but which, in ordinary healthy mouths, is innocuous? If the disease always began in the mouth, one might lay greater stress upon this as a probability, but with so many well authenticated cases of the starting point being on the skin, I am afraid that theory cannot explain all cases. Certainly MacCormac's case would lead one to believe that some organism acquired during childbirth or the puerperium was responsible.

I have been particularly struck with the number of cases that have occurred during or after pregnancy. In Ravogli's case, the patient had a breaking out of red papules on the chest when she was pregnant, the disease - if that was the beginning of it - remaining dormant for a year when it commenced or re-commenced on the umbilicus; between the times of these appearances

she bore a healthy child.

⁴⁰⁾
 Schiedat's case began on the back of the throat, some days before parturition. Bottelli quotes a case of a woman of 40, where the condition had begun during her last pregnancy. It disappeared towards the end of her pregnancy, but recurred after the puerperium. Rutherford's case had a discharge from the vagina since the birth of the last child. These are a few, out of a large number of cases, where women have been attacked with this disease. I am unable to deduce any reliable inference from these cases, I merely mention the facts.

Two cases have had their apparent starting point after a whitlow on the finger: Haslund⁴¹⁾ mentions one and Köbner the other. In addition to this, we have Herxheimer's case, where there was an antecedent chronic suppuration of the nails for five years before the decided onset of the disease. I don't believe, however, the disease is acquired in any one way.

I consider it due to the action of some hitherto undiscovered organism which, aided by some unusually favourable media for taking root, the media may be a septic mouth, vagina or anus - produces Pemphigus Vegetans. It is probable it will have aiding factors, it may be the conditions of life about a farm pre-dispose it to activity, or the conditions found during

child-birth may have some relation ,but after many possible causes have been adduced,we are still at the beginning of the difficulty.

Post-mortem Findings.

Again we have nothing constant to report.

Lesions of the nervous system have been so frequently found ,as to induce some authorities to lay the cause of the condition there.

Ehrmann and Törck⁴²⁾ found lesions of the spinal cord. Westberg⁴³⁾ pointed out, in the cervical spinal cord, there was a marked coloration of the columns of Goll and the posterior roots, the anterior roots were a little paler. He found an abnormal clear tinting ,this modification of colour was believed to be due to a considerable decrease in the fibres, and a corresponding augmentation of the neuroglia. There was, above all, a marked atrophy of the anterior columns of the cord.

Jamieson reports a diffuse degenerative change of the nerve cells of all the sections of the cord examined. Similar changes were observed in the nerve cells of the sympathetic ganglion, and of the cerebral cortex. These nerve-cell changes appearing to represent a primary degeneration .

Marianelli⁴⁴⁾ reports changes in the upper cervical ganglion, while Vagler⁴⁵⁾ reports a Pachymeningitis externa, Leptomeningitis, hyperaemia of the right hemisphere and hypertrophy and thickening of the cerebral veins.

The changes in the organs have been most inconstant. They are, I believe, secondary to the disease, and I will not dwell upon them. The kidneys, however, like the nervous system, seem to have been occasionally marked out for attack. The changes in the liver in no way differ from what is frequently found in other acute toxic processes.

Condition of Urine.

An Italian authority, named Pini,⁴⁶⁾ has done the most work in this particular line. It is not easy, from extracts I have procured in other journals, to exactly follow all his researches, but the general fact remains that, after a most exhaustive study of the question, he has brought us no further forward.

First Case.

On inspection. No alteration in colour, an ordinary urate deposit was generally present.

Quantity averaged 45 ounces.

Reaction acid upon some occasions faintly

alkaline.

Chemical Tests. No albumen, sugar, blood or bile. Distinct traces of Indicar present. The test seemed to be more decided when the acute stage passed off. I know of no quantitative method of estimating the amount, but the reaction was distinctly easier got during the chronic process of the disease.

A persistent, although slight, diminution in the normal amount of chlorides was to be noted.

Quantitatively. Urea 6 grs to oz.

Microscopically. On centrifuging and examining the deposit, I found on some occasions a few phosphatic crystals present.

The only organism I could find was the Smegma bacillus.

The Bacillus Pyocyaneus was not detected, as was done in a case reported of Pemphigus Foliaceus.

Second Case.

In the second case, my findings did not greatly differ from the first, except that there was the presence of albumen noted. The quantity of urine averaged rather less than normal, but it was difficult to collect and for that reason I am unable to state its average quantity over a number of days.

inspection merely showed a mucous deposit.

Clinical Tests. Albumen present in varying amount, no sugar, no blood, small amounts of pus at times, and again Indican.

Quantitative Tests. Albumen, when patient was seriously ill, was in fairly large amount, showing as much as 9 grs to the ounce. After the subsidence of the acute symptoms, it fell until one could hardly get any reaction. The lowest I was able to get was 2 grs to the ounce.

Urea was in general 7 grs to the ounce. The proportions did not greatly alter throughout the disease. I, however, noted that it tended to be rather more when the disease was more acute. It never was lower than 6 grs to the ounce.

Microscopically. I found nothing constant. Frequently red and white blood cells, occasionally a few oxalate crystals. No organisms found on stained specimen.

The presence of albumen in my second case I discount, as the patient had had scarlet fever, and there was a marked accentuation of the second sound in the aortic and mitral areas.

The question of the large number of cases where albumen has been found in the urine is interesting. I don't believe it is anything more than a secondary

phenomenon. It also exists in most other acute toxic conditions.

Pini, in his article, tells us he has found toxic substances in the urine, which cause, on being injected into guinea pigs, severe toxæmia and even death. occasionally. He does not seem to have discovered the nature of the toxic substance which brings about this result.

Condition of the Blood .

First Case.

There was nothing very striking present. The red blood cells were 5,160,000, Leucocytes 8,400, Haemoglobin 86% .

| | |
|--------------------|-----|
| Polymorphonuclears | 64% |
| Mononuclears | 21% |
| Eosinophiles | 12% |
| Transitional | 2½% |
| Mast cells | ½% |

The occurrence of eosinophilia is such a constant phenomenon in these cases, that one would be much more inclined to comment on its absence, rather than on its presence. I attach little importance to it, as it is a far too frequent occurrence in other diseases of the skin to be of any use as an aid to diagnosis. I am

quite at issue with Lerredde,⁴⁷⁾ who groups Pemphigus Vegetans, Pyodermatitis Vegetante and Dermatitis Herpetiformes of Duhring all together on the basis of all having eosinophilia.

It is certainly not a constant phenomenon in any of these diseases, nor is it by any means limited to them.

Schamberg and Strickler⁴⁸⁾ have pointed out the presence of eosinophilia, even in Scabies. Out of 47 cases of Scabies tested, 38 showed eosinophilia or 80%. It has been reported in many other diseases of the skin, and I certainly am unable to attach any importance to its presence here.

Second Case.

This showed nothing markedly different from the first.

The red blood cells were 5,520,000.

Leucocytes 11,000.

Polymorphonuclear 70 %

Lymphocytes 23 %

Eosinophiles 6 %

Mast cells $\frac{1}{2}$ %

Transitional $\frac{1}{2}$ %

In both we have a leucocytosis and in both an eosinophilia.

Wassermann Reaction .

Negative in both cases.

The only case where it has been found positive has been in that of Cronquist.

⁵⁷⁾
Bottelli, Abraham, Hartzell and Schiedat, in their recently published cases, report negative findings. On the two occasions it was tested in Cronquist's case, it proved strongly positive. One would be a little inclined to doubt the diagnosis in cases of supposed Pemphigus Vegetans, where Wassermann remains repeatedly positive.

The study of the case, however, would incline me to the opinion of Cronquist, that it could only be a Pemphigus Vegetans.

Differential Diagnosis .

I have already mentioned the features which distinguished this disease from syphilis. It can only be confused with other vegetating diseases of the skin.

Dermatitis Herpetiformes is one of the diseases with which Pemphigus Vegetans is most liable to be confused. Where there are vegetations present, it may be very difficult to separate this disease from the benign variety of Pemphigus Vegetans.

Some points of importance there are, which help

the observer to differentiate the two conditions.

(1) In Dermatitis Herpetiformes, we generally have some appearance of symmetry in the condition, which is more or less marked.

(2) The long course, and the comparative mildness of the signs and symptoms, should be a further point of importance in distinguishing between the two conditions.

(3) In Dermatitis Herpetiformes, the vegetations are, when present, more likely to appear on the feet, toes and fingers. The buccal mucosa is less likely to be involved, and is less frequently affected primarily.

(4) There is not the same crescentic circle of little vesicles round the vegetating area in Dermatitis Herpetiformes. I have never seen a case of Dermatitis Herpetiformes which has undergone vegetative change, but in all the cases so described, I have not noticed this point mentioned. It is among the most valuable diagnostic points we have for Pemphigus Vegetans when this sign is present.

(5) Dermatitis Herpetiformes is not incompatible with relatively good health, while even in its most benign form, Neumann's disease brings about some degree of wasting.

(6) The presence of very intense itching would be rather in favour of a diagnosis of Dermatitis Herpetiformes.

(7) Arsenic exercises an almost curative effect in Dermatitis Herpetiformes. The immediate recurrence or aggravation of the disease as soon as Arsenic is left off cannot fail to strike the observer, if he has seen a large number of cases.

(8) Children in Dermatitis Herpetiformes are much more liable to be affected. Except in Riehl and Matzenauer's cases, there is no recorded example of Pemphigus Vegetans in a child, unless we include Jamieson's case, which he described under the title Dermatitis Vegetans, as an example of the benign form of Pemphigus Vegetans.

Brocq emphasises the polymorphous nature of the eruption in Dermatitis Herpetiformes as a distinguishing feature from Pemphigus Vegetans. From my limited experience, I emphatically differ from him on this point. Repeatedly I have seen vesicles, vesico-pustules, pustules, pustules and vegetations in both my cases.

I have already given my reasons for believing Pyodermitie Vegetante to be but a benign form of Pemphigus Vegetans.

The differential diagnosis between this disease and ordinary Pemphigus, which has undergone vegetation,

I have already given.

Bacteriology of this Disease.

It is disappointing to have to report - after many strivings - nothing.

Cultures made from the bullae proved invariably negative, on all the ordinary media, while from the vegetations nothing more than *Staphylococcus Albus* and *Aureus* could ever be got.

Injectations into guinea-pigs produced no other effect than a slight local reaction, from which it was impossible to obtain any organisms.

Microscopic films, made from the discharge from the vegetations, gave a typical *Staphylococcus*

I have failed, but I have done so in good company, as Herxheimer, Pfeiffer,⁵⁹⁾ Bottelli, Marianelli, Strelitz, Winfield,⁵⁸⁾ Hamburger and Rubel, and Schiedat have obtained nothing more than *Staphylococcus Aureus*.

A very large number of Bacteriologists have sought for the causal organisms in this disease, with, as might be expected, a considerable variety of result.

Von Waeltsche and Stanziiale⁵⁰⁾ have both found a pseudo-diphtheritic bacillus present. Von Waeltsche, in each of the two cases he has had, and Stanziiale in his single case. Stanziiale found a diplobacillus in

in the bullae and a pseudo-diphtheritic bacillus from the vegetations, in addition a Staphylococcus Albus and Aureus and a Streptococcus. His observations confirmed those of von Wäelsche.

It is interesting to note at this stage that ⁵¹⁾ Pernet and Demme have both found a diplococcus in the bullae of Pemphigus Vulgaris. The conclusion come to by Stanziiale was, that the bullae of the disease were caused by a diplobacillus, and the vegetations by a pseudo-diphtheritic bacillus. Hamburger and Rubel cultivated a pseudo-diphtheritic bacillus from the mouth after death.

Phillipson and Fileti ⁵²⁾ found a diplococcus resembling a gonococcus.

⁵³⁾ Gaston found a small bacillus which he was unable to identify, and a Streptococcus.

MacCormac also isolated a Streptococcus.

Pernet is the only authority who reports the presence of Bacillus Pyocyaneus.

From such varied results, no reliable deduction can be drawn.

Treatment.---

There being no certain cure for this disease, there is naturally a large number of possible remedies.

That successfully practised by Müller, of painting

the parts with Tinct. Iodine, had one apparent success, and a great many failures.

Painting with Silver Nitrate was also of little or no use.

Young's method of employing a vaccine prepared from the patient, despite a preliminary improvement, proved likewise hopeless.

X-rays, while being of service in treating some of the symptoms, has had no effect on the general course of the disease.

Koch's normal saline, I should have expected, would have given better results, was of little or no service in any of Zumbusch's cases.

Arsenic in all its forms, even Ehrlich-Hata, has had no good effect.

Strychnine alone, or in combination, by the mouth or hypodermically, has not saved a single case.

Special dieting seems to have made no impression on the patient's general condition.

The best results have been obtained by treating symptoms.

From the commencement of the case, meet each symptom as it arises. It is rather a nebulous method of proceeding, but, until we know the cause, we are helpless to do more than alleviate the patient's symptoms.

To begin with, the patient should be made, and kept, thoroughly clean.

Crusts should be poulticed off with starch, or other poultices, but above and beyond all in these cases, I would recommend that all the rotten teeth in the mouth should be removed, under a general anæsthetic if necessary. Indeed, I am not certain if, in presence of such a grave condition as this, I would not recommend removal of all the teeth, decayed or healthy. Having gone so far, thorough, regular rinsing of the mouth with Peroxide of Hydrogen should be practised ten or twelve times in the twenty-four hours. This measure, Dr. Fox told me, was ~~of~~ the very greatest service in his case. The improvement which took place when it was done was most gratifying.

Spray the affected parts thoroughly several times daily with Peroxide of Hydrogen. After this, apply a mild Boric or Zinc ointment on lint. Should there be a great deal of pain from the parts, a dressing of Carbolic oil (1 = 20) should be applied for some hours daily, watching the state of the urine during this line of treatment.

Ensure regular and daily evacuation of the bowels by an olive oil enemata. I attach a great deal of importance to this measure in the treatment, as I am convinced this is an internal intoxication and every

means should be taken to prevent any accumulations of possible toxic products within the system.

The raw excoriated areas, after rupture of the bullae, should be, where possible, protected by Emplastrum Zinc Ichthyol Salve Mull.

To the vegetations should be applied a course of X-ray treatment, especially if the odour from the patient is especially obnoxious.

It may be necessary for the patient to remain in a warm water bath, if there are raw, painful areas on the dependent parts, or if the patient is suffering a good deal of pain, it might be advised. Unless there is very great pain and discomfort, I would deprecate its habitual, constant use, as I believe it tends to delay healing. A few hours daily, however, will often give the patient great relief.

Morphia, as recommended by Hutchinson, should be tried first of the internal remedies, as if it does the disease no good, it will at least help the patient to bear his sufferings with a greater serenity.

I am not greatly enamoured with the Tincture of Iodine paining for the vegetations. After all, the vegetations are merely the expression of the disease, and it seems to me to be on a par with endeavouring to tear down a pneumonia temperature, which is not

unduly high.

Ensure as thorough cleanliness about the patient as possible and give the patient as full a diet as he can comfortably assimilate.

The method of preparing a vaccine from the patient himself is perhaps, of all the remedies, the one which offers the best hope of cure. Young, in his case, greatly regretted that he had not begun that treatment earlier.

S u m m a r y .

Let me conclude by say that, while we know nothing of the etiology of this disease, I am convinced it has a relation, in some pretty distinct manner, to the conditions found in country life.

Its undoubted preponderance in women (a fact I omitted to mention earlier), as well as the number of cases which have started during pregnancies, make me believe that, in some cases at least, pregnancy is a predisposing factor.

I am of opinion its starting point need not necessarily be in the mouth, but the organism may gain entrance anywhere.

It has no relation to syphilitic disease, and while placing it in the Pemphigus group, I do not

include it as a sub-variety of any one of its forms, as I believe it to be a definite separate disease, caused by an organism which has yet to be discovered.

I hold with most authorities, it may have a benign form, where the primary efflorescence is a pustule, rather than a bulla, and that in such cases the period of recovery may be longer. It is too early to say whether such benign varieties are curable or incurable, as we have not got enough to go upon yet. While not going so far as to say that all cases will eventually die of their disease, I certainly believe that, in the malign variety, unless cut off by some intercurrent disease, a lethal end is certain.

While there is no absolute cure, we have many means of making the patient's life more bearable; several of these methods I have already indicated.

It would seem to me that the preparation of a vaccine from the patient himself would offer him the best chance.

While not having much faith in it, I should consider, in the presence of such a calamity as this disease, almost any line of treatment justifiable, if it offered the patient a ray of hope.

No causal organism has been discovered as yet and the histological findings are not characteristic of this one disease only.

H i s t o l o g y .

It is generally agreed that, in its histology, Pemphigus Vegetans presents nothing characteristic. That opinion has only one dissentient, so far as I know, C. Müller .

In the vast majority of cases, authorities on this condition have described an oedema of the tissues, enlargement , and in some cases thickening, of the blood vessels, enlargement of the lymphatics, hypertrophy , in some cases enormous hypertrophy, of the rete cones, alterations in the sweat glands, alterations in the elastic tissue, pseudo-abscesses in some part of the Malpighian layer, invasion of leucocytes, and occasionally the presence of micro-organisms.

The only constant phenomena which have been described are the enlarged blood and lymphatic vessels, the presence of leucocytes and pseudo-abscesses , and the hypertrophy of the rete malpighii.

In none has the enormous hypertrophy of the fibrous tissue been noted, as it is in this case. In about half the cases only have plasma cells been described, while I have only come across one or two authorities who mention the presence of micro-organisms in their section.

Herxheimer found almost the same points present

in his section from Impetigo Contagiosa Vegetans, and uses this fact in support of his theory that the vegetations in Pemphigus Vegetans are merely complications on the top of an ordinary Pemphigus .

⁶⁰⁾
Du Mesnil has pointed out the same fact and drawn the same conclusion from a case of Impetigo Herpetiformes.

The alteration in elastic fibres has been commented on by Luithlen and Cronquist in their cases. Cronquist points out that the elastic fibres, in his case, were preserved precisely at those places where the pathological process was most marked. In Luithlen's case, there was a considerable diminution in the elastic fibres, not only belonging to the sweat glands, but also of the arteries. Having found an almost identical condition in Pemphigus Vulgaris, he is satisfied the two are essentially the same process.

⁵⁴⁾
Jarisch does not believe the elastic fibres play an important part in the pathological processes, or at least he will not allow it in all cases, as he points out the elastic fibres were present in normal amount in his case.

The presence of pseudo-abscesses has given rise to a good deal of controversy. The first idea of their nature was, that they were genuine small abscesses, this, however, has been disputed by many writers, and is

not now generally held to explain their presence.

⁵⁵⁾ Constantin believes they are merely due to an irregularity in the section and that they are really superficial.

Wilfred Fox disputes this as regards his case.

Most authorities believe they are enlarged spaces between the cells containing leucocytes.

Unna refers to them under the title of "dry abscesses" and says they indicate the resistance of the prickle cells to the powerful lymph stream of the cutis.

Riehl and Weidenfeld believe they have nothing to do with the pathological process as such, but are due to the irritation of treatment.

The enlarged and altered condition of the blood-vessels is a nearly constant phenomenon.

Weidenfeld and Herxheimer believe the exudation brought about by this enlargement causes the vegetations.

It may be, as put forward by Ravogli and others, that the enlargement is due to a functional disturbance of the trophic nerves, an opinion strongly controverted by Weidenfeld, who believes the alteration is a lasting, and not merely a functional, one.

⁵⁶⁾ Eppinger, at the Graz Dermatology Conference, held

that it was due to some poisonous elements brought to the skin by the circulation.

Much is still to be learned regarding these changes. I am of opinion the enlargement and dilatation of the blood vessels play an integral part in the process, As to what causes such dilatation, whether it is due to some toxin circulating in the blood and acting directly on the vessels, or acting indirectly on the vaso-motor centre, I am not prepared to say. The alterations of the elastic fibres seem to play a secondary part in the process, as it is too inconstant a phenomenon to play an active rôle.

It is not known what part the plasma cells have. They are not arranged in my case in any special manner near the enlarged blood vessels, as some authors describe.

The most striking thing in my sections is the enormous increase in the fibrous tissue. It is in places also distinctly swollen.

Ravogli describes a similar enlargement of the sweat glands to that seen in my section.

I attribute the marked increase in fibrous tissue, and the absence of any oedema, to the fact that the sections were taken from a part where the vegetations had been a very long time, and were being cicatrised.

Description of Slides.

Section I.

Stain Methylene Blue 10 mins .

 Neutral Orcein 15 mins.

Stratum Corneum absent.

Stratum Malpighi broken up and irregular. Here and there the rete cones are seen detached from the surrounding tissue. At places the Strat. Malpighi appear in islands, probably owing to the way the section has been cut. In places in the rete cones, little spaces are to be made out containing cells, the so-called pseudo-abscesses of most authorities.

At other places in the centre of the rete cones, the prickly cells are swollen and enlarged, the places between are also larger.

There is an enormous over-growth of fibrous tissue which invades the spaces between the sweat glands and between the rete cones.

All the blood vessels are enormously thickened, and enlarged. Little collections of blood are seen in the dilated veins.

Section II .

Stain Orcein Acid 4 hours.

 Pappenheim 10 minutes.

Shows the elastic fibres.

There is degeneration of the elastic tissue.

It is diminished in some places round the enlarged sweat glands ,in others the elastic fibres are absent altogether. The amount of elastic tissue round the arteries varies,in some places appearing increased, while in others it is not markedly altered.

Here and there, stained bright red, are what appear to be little micro-organisms .

There are large numbers of plasma cells seen nearly all over section stained red in colour. They are sometimes seen in clumps near the sweat glands.

Other cells, apparently leucocytes, are present, but it is not possible to differentiate their type with the means at my disposal .

Section III.

Stain Unna's Pappenheim Stain, i.e.

Methyl Green 0,15

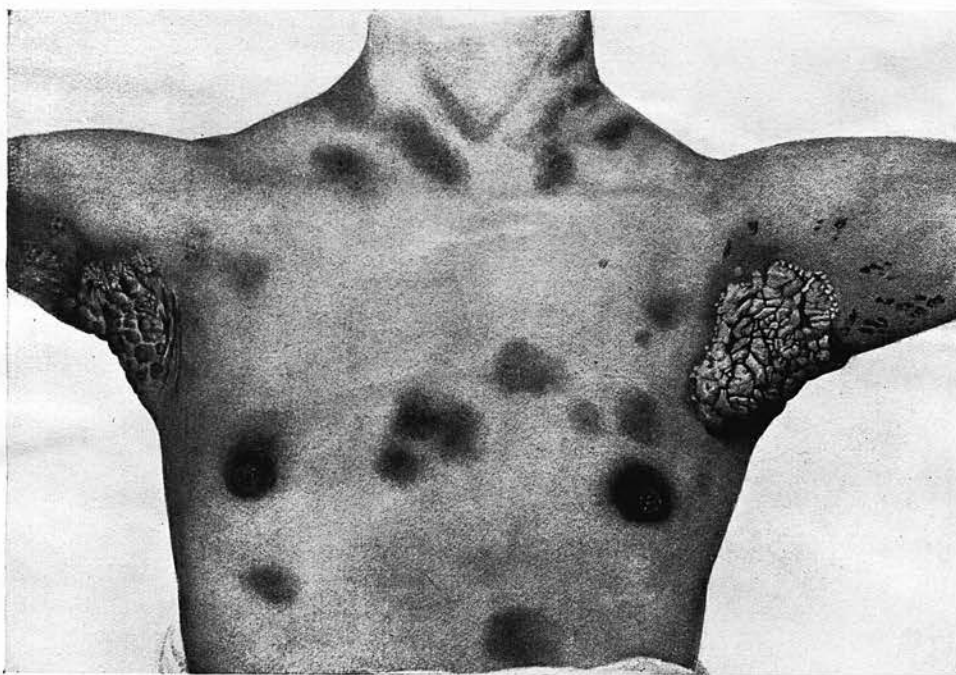
Pyronin 0,25

Alcohol 2, 5

Glycerin 20,

Aq. Carbolisata ½ % ad 100,0

Diagram . To face page 79.



In this section can be made out the dilated lymphatics in the neighbourhood of which are plasma cells.

In this section little areas of pigmentation are to be made out.

Parts can also be seen which appear as if the isolated Malpighian cone were being transformed into a sweat gland.

The micro-organisms are specially well seen in this section.

Here and there through the rete malpighii are little spaces, filled with cells, these represent the pseudo-abscesses spoken of by some writers. Where the rete cone is intact, it is seen to be very much elongated and in places narrowed.

I regret exceedingly I was unable to secure photographs of my cases, my repeated requests for the same having been ignored.

I, however owe great thanks to Professor Riehl and Dr. Kren for their kind permission to use this material for my thesis, and to letting me have a piece of skin from the first case for microscopic preparation.

The diagram I am showing here I owe to the kindness of Dr. Wilfred Fox who has allowed me to make use of it.

I would direct special attention to the characteristic row of vesicles round the edge of the proliferations also upon the left side of the picture a puckering of the skin - a condition also described by Neumann.

There is very characteristic pigmentation shown on the previously affected parts.

The vegetations very well show the individual projecting processes which are aggregated into one large mass.

The slight white coloration on the left side of the picture is due to the application of powder .

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